F08090 09752760

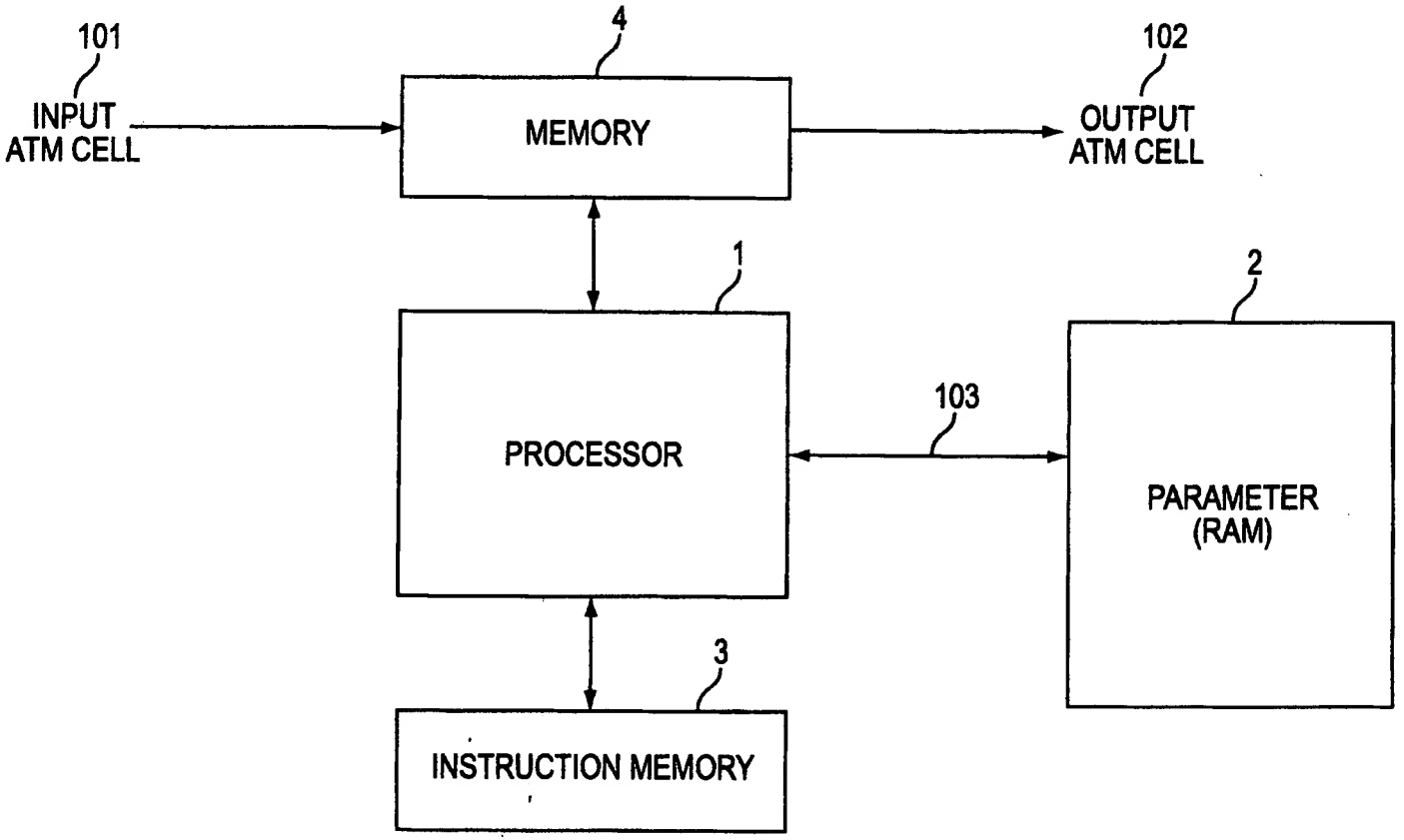


FIG. 1

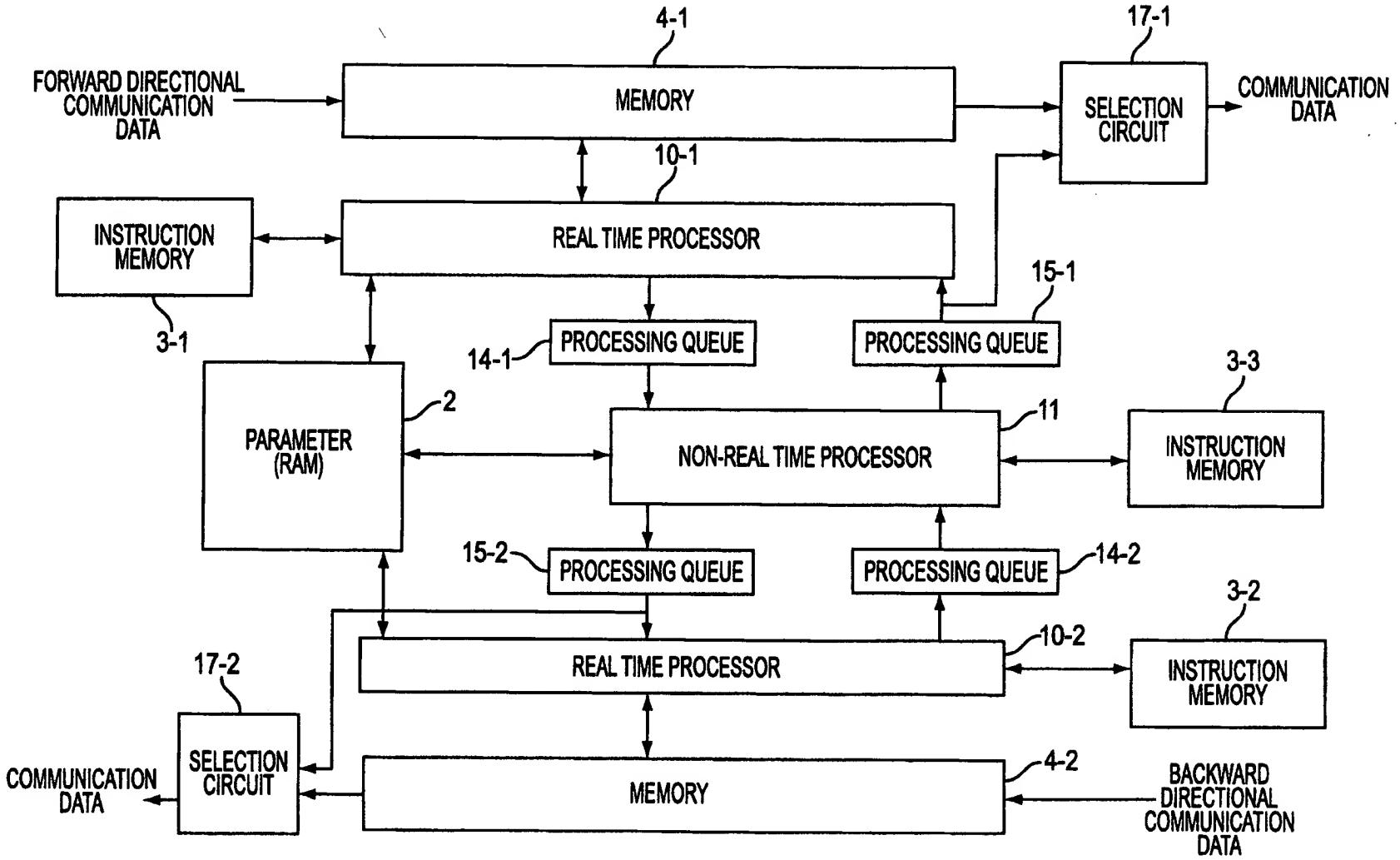

4-1
17-1
FORWARD DIRECTIONAL COMMUNICATION DATA
MEMORY
SELECTION CIRCUIT
COMMUNICATION DATA
10-1
INSTRUCTION MEMORY
REAL TIME PROCESSOR
15-1
3-1
14-1
PROCESSING QUEUE
PROCESSING QUEUE
3-3
2
11
PARAMETER (RAM)
NON-REAL TIME PROCESSOR
INSTRUCTION MEMORY
15-2
PROCESSING QUEUE
PROCESSING QUEUE
14-2
3-2
10-2
17-2
REAL TIME PROCESSOR
INSTRUCTION MEMORY
SELECTION CIRCUIT
COMMUNICATION DATA
MEMORY
4-2
BACKWARD DIRECTIONAL COMMUNICATION DATA

FIG. 2

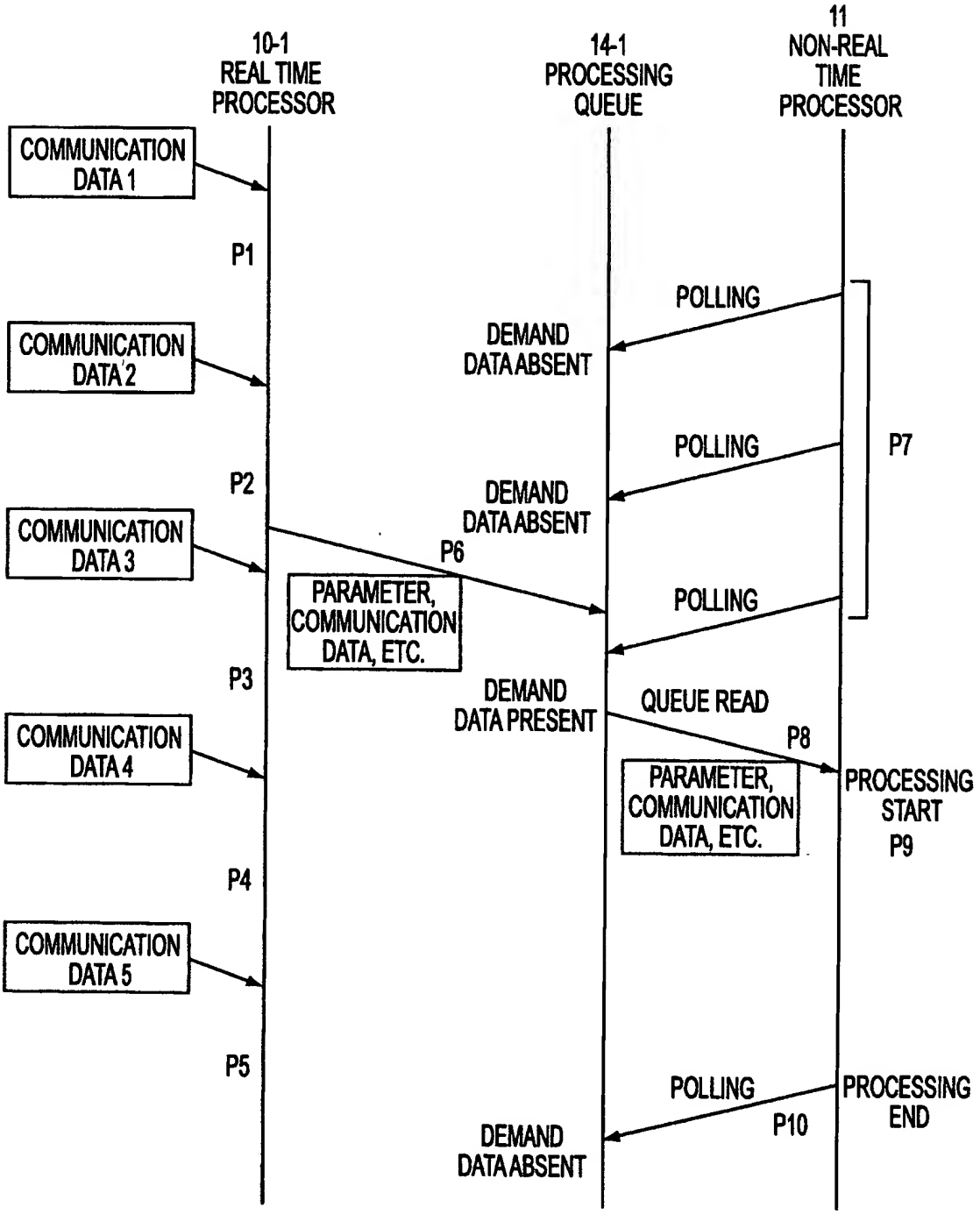

10-1
REAL TIME
PROCESSOR
14-1
PROCESSING
QUEUE
11
NON-REAL
TIME
PROCESSOR
COMMUNICATION DATA 1
P1
POLLING
DEMAND DATA ABSENT
COMMUNICATION DATA 2
POLLING
P7
P2
DEMAND DATA ABSENT
COMMUNICATION DATA 3
P6
PARAMETER, COMMUNICATION DATA, ETC.
POLLING
P3
DEMAND DATA PRESENT
QUEUE READ
COMMUNICATION DATA 4
P8
PARAMETER, COMMUNICATION DATA, ETC.
PROCESSING START
P9
P4
COMMUNICATION DATA 5
P5
POLLING
PROCESSING END
P10
DEMAND DATA ABSENT

FIG. 3

T08090 09T57260

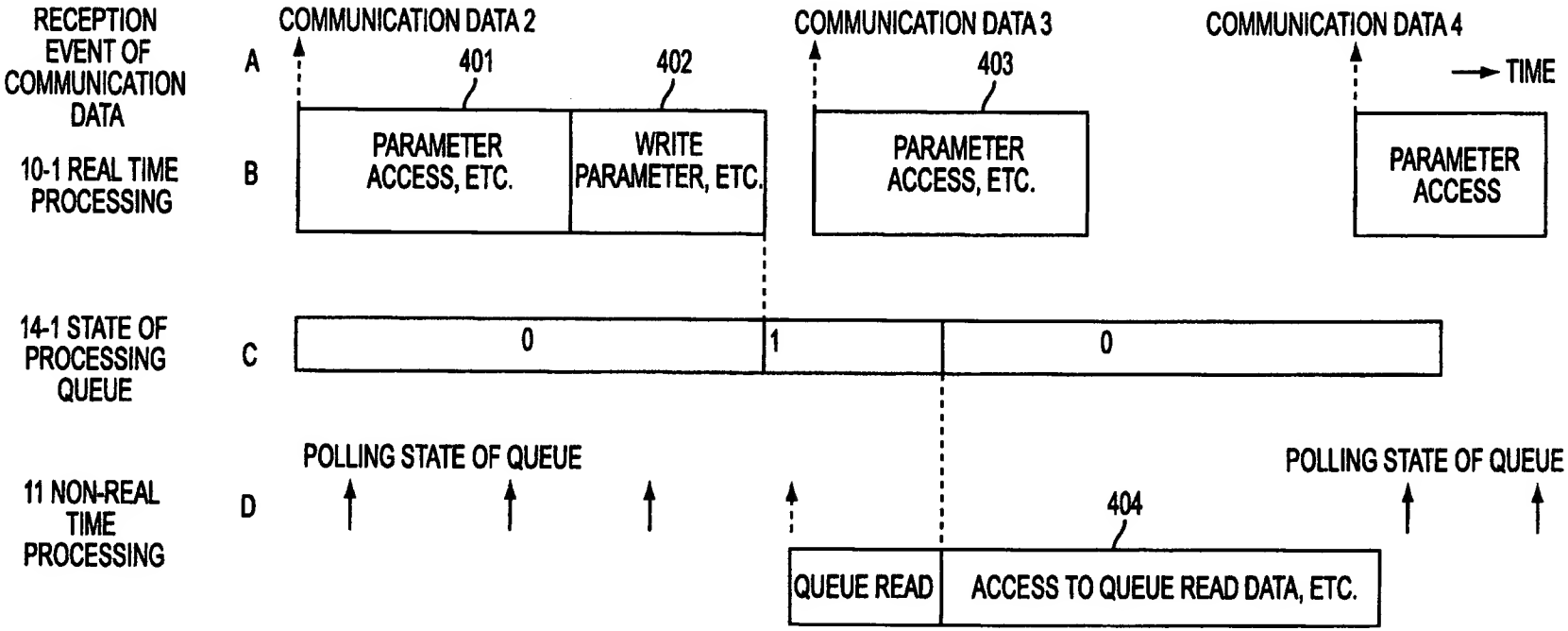


FIG. 4

T08090 "09T52260

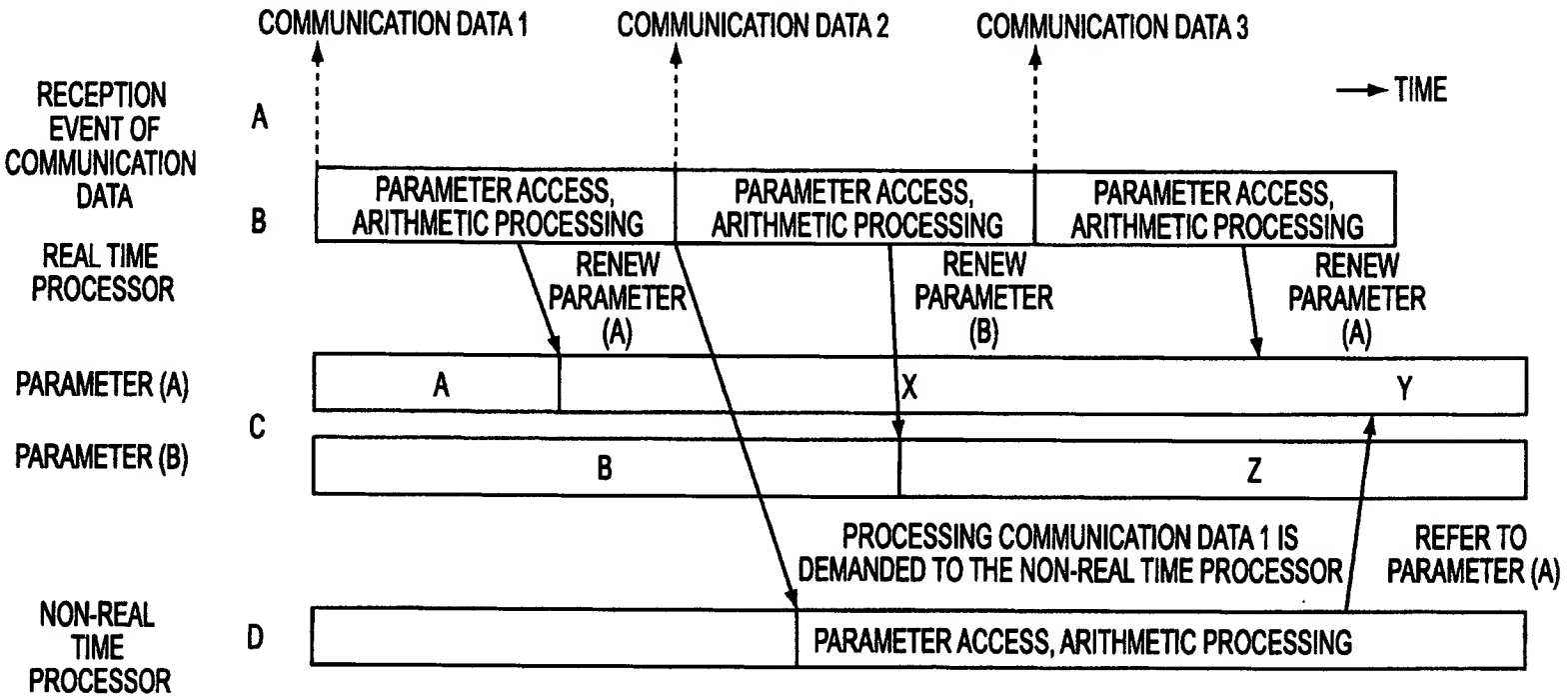


FIG. 5

T08090 "09T52760

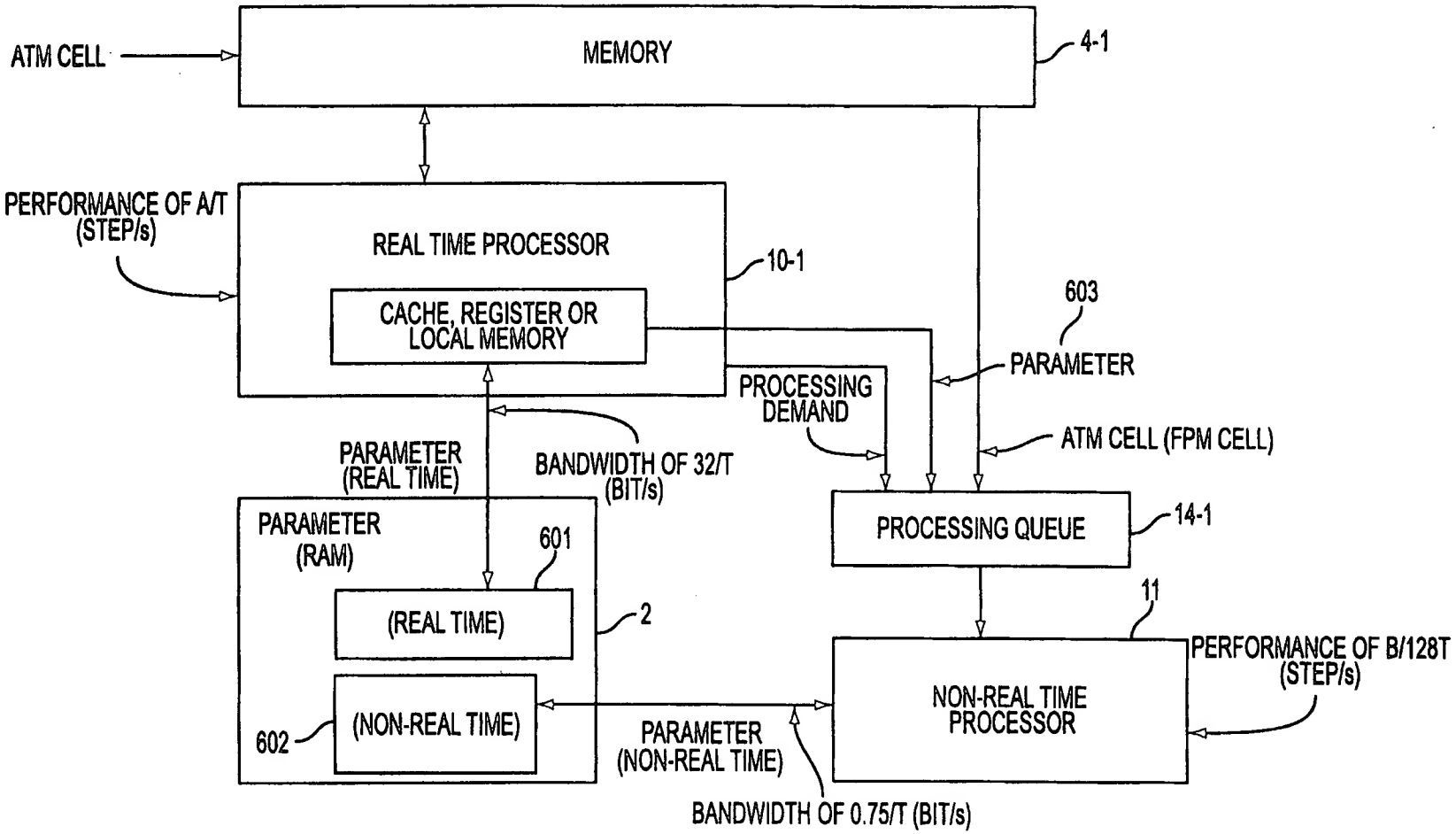


FIG. 6

FD8090 09T5260

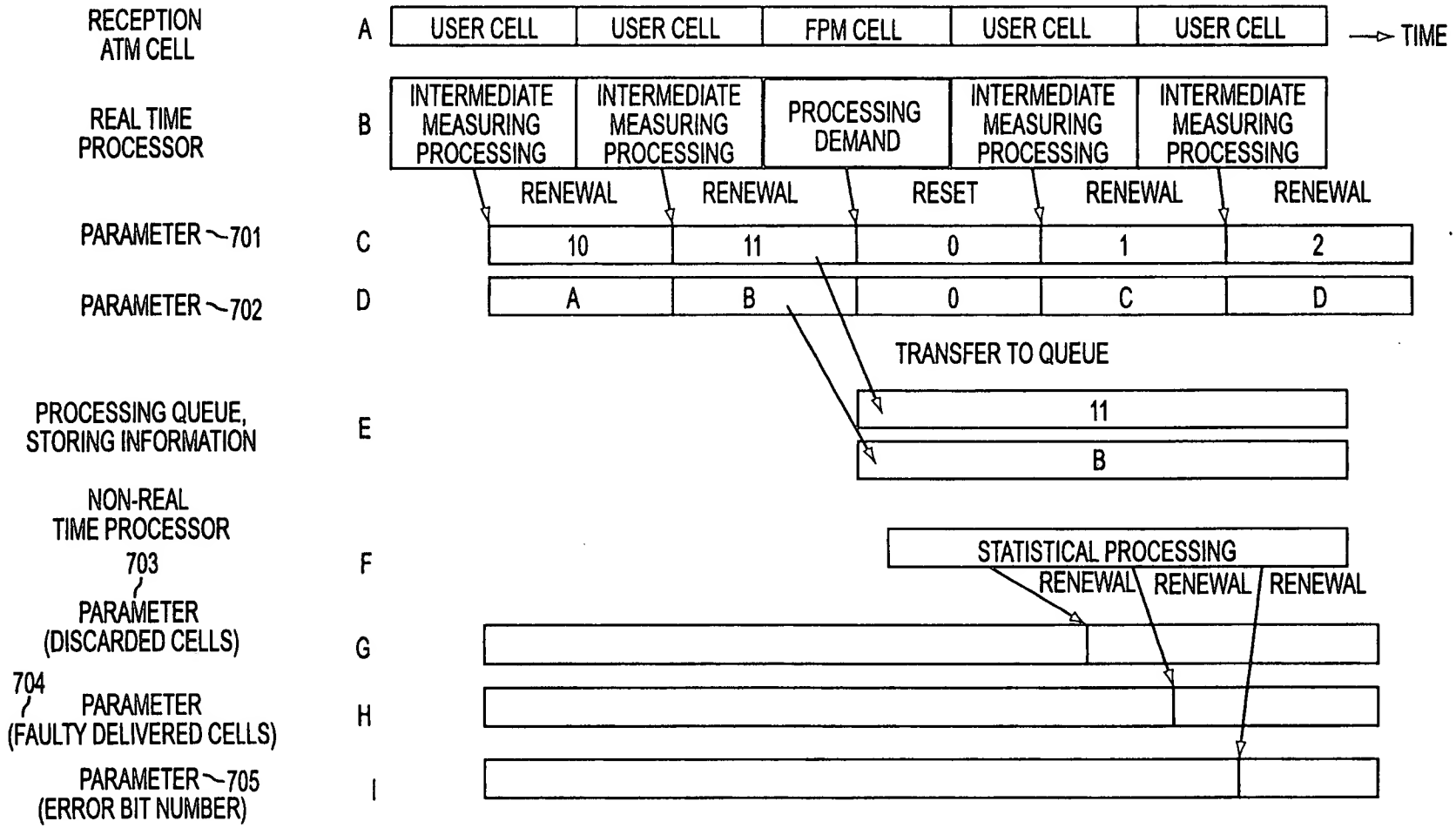


FIG. 7

EL809067957US

FIG. 8A

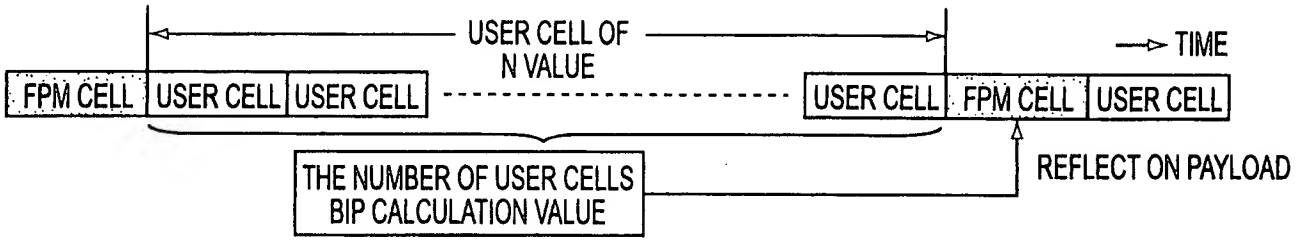


FIG. 8B

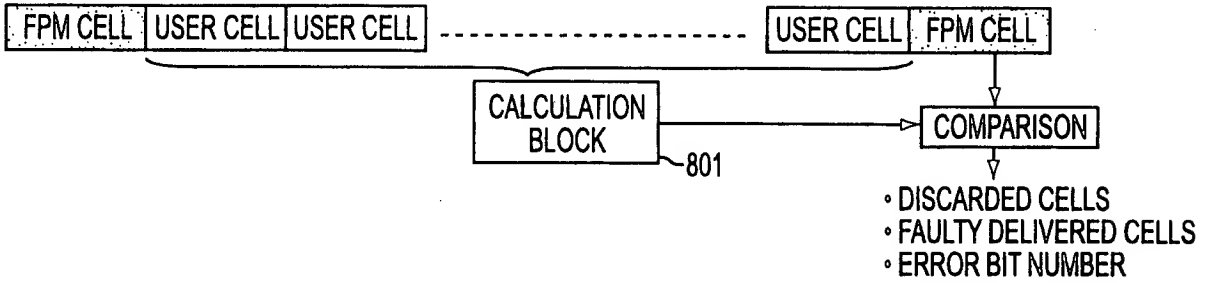
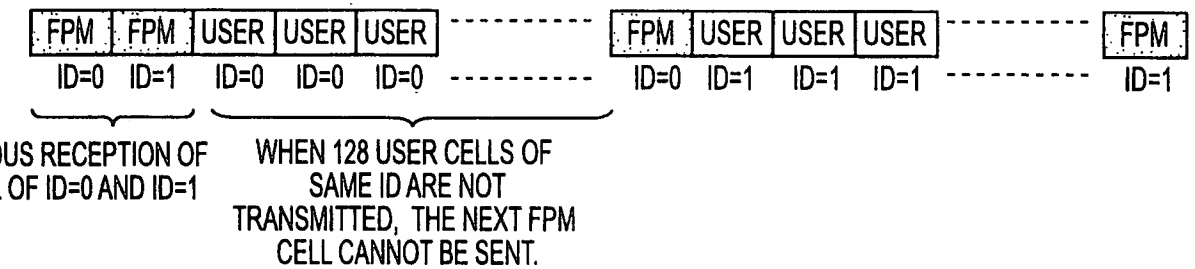


FIG. 8C



FD8090 09752760

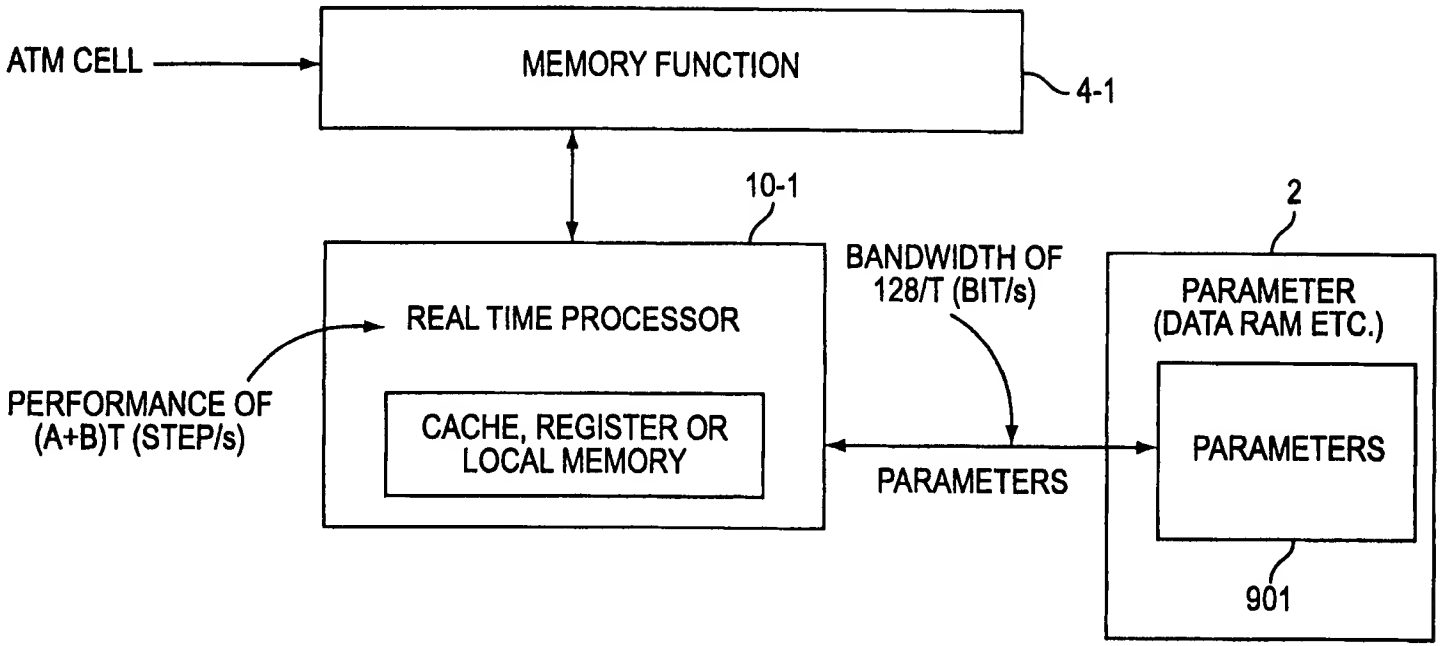


FIG. 9

T08090 09T52260

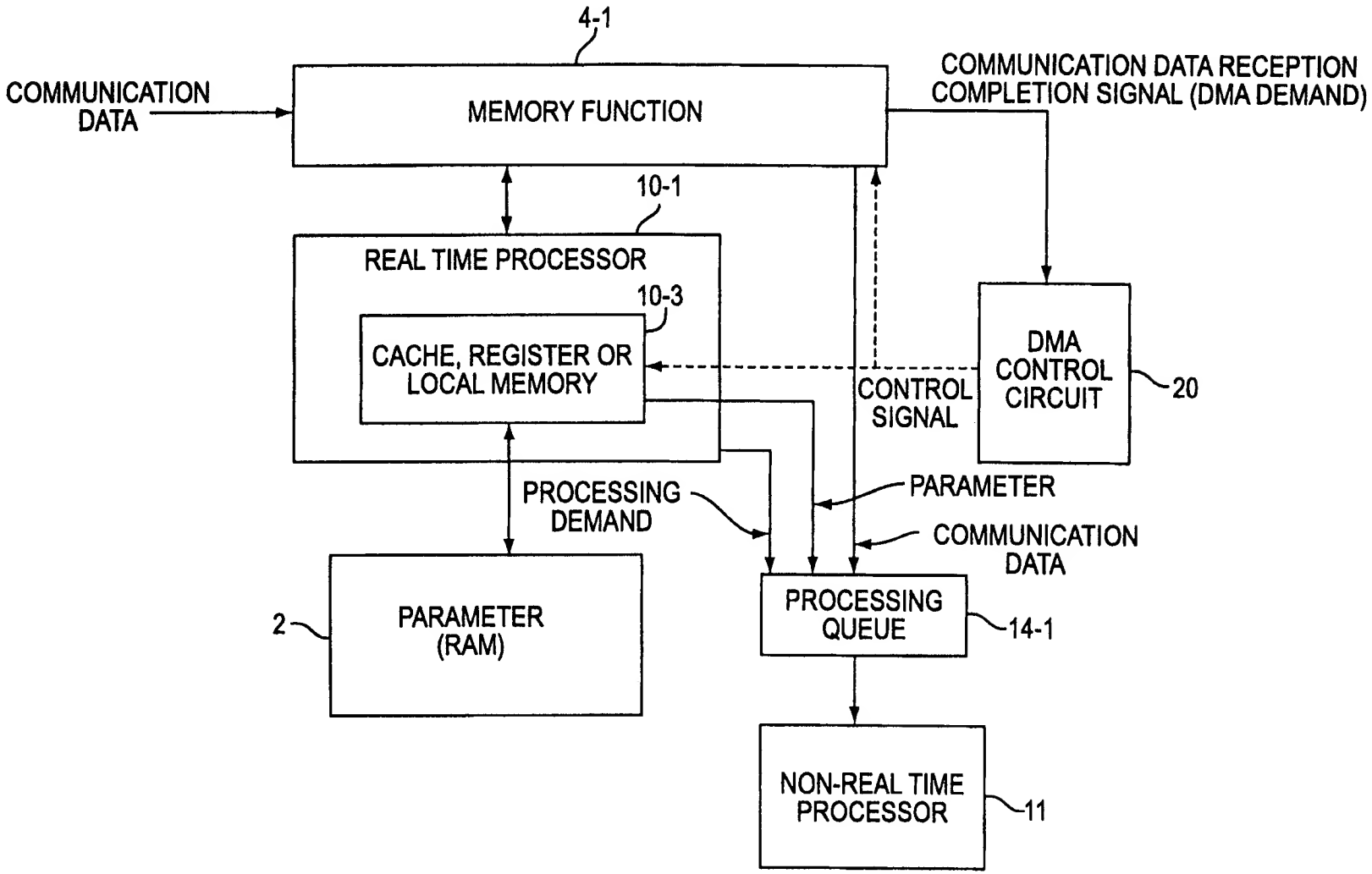


FIG. 10

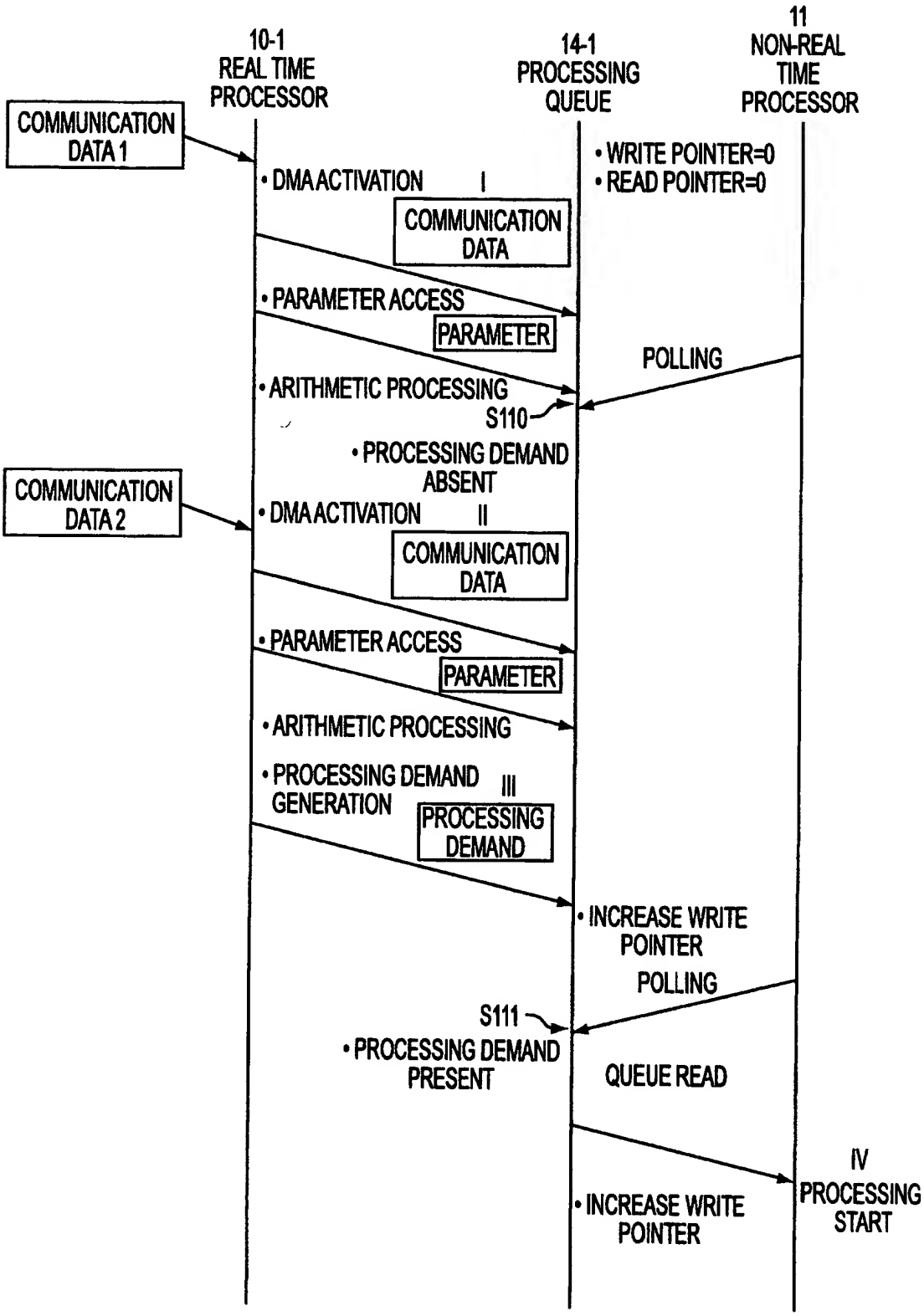

10-1
REAL TIME
PROCESSOR
14-1
PROCESSING
QUEUE
11
NON-REAL
TIME
PROCESSOR
COMMUNICATION
DATA 1
• WRITE POINTER=0
• READ POINTER=0
• DMA ACTIVATION I
COMMUNICATION
DATA
• PARAMETER ACCESS
PARAMETER
POLLING
• ARITHMETIC PROCESSING
S110
• PROCESSING DEMAND
ABSENT
COMMUNICATION
DATA 2
• DMA ACTIVATION II
COMMUNICATION
DATA
• PARAMETER ACCESS
PARAMETER
• ARITHMETIC PROCESSING
• PROCESSING DEMAND III
GENERATION
PROCESSING
DEMAND
• INCREASE WRITE
POINTER
POLLING
S111
• PROCESSING DEMAND
PRESENT
QUEUE READ
IV
PROCESSING
START
• INCREASE WRITE
POINTER

FIG. 11

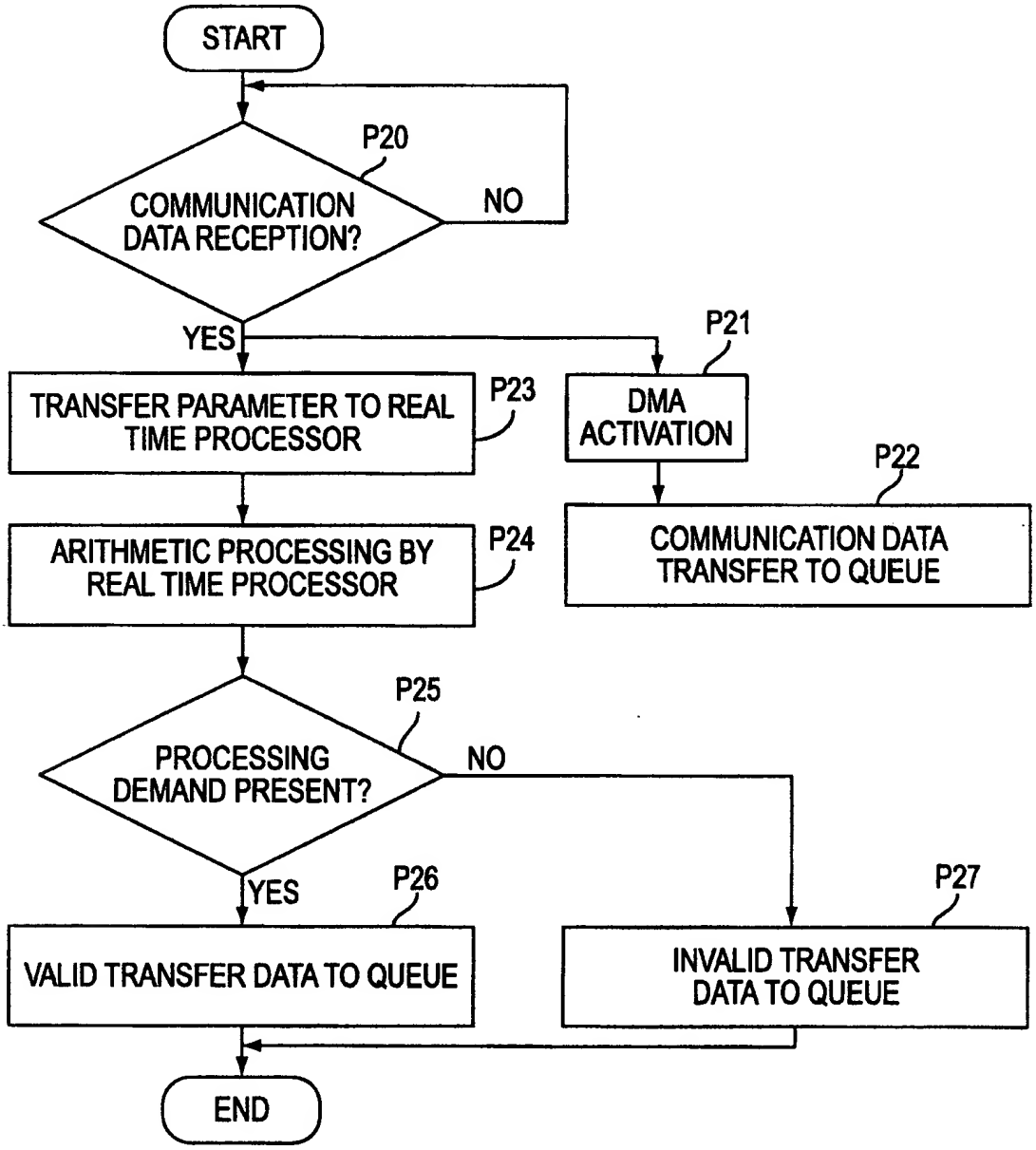

START
P20
COMMUNICATION DATA RECEPTION?
NO
YES
P21
TRANSFER PARAMETER TO REAL TIME PROCESSOR
P23
DMA ACTIVATION
P22
ARITHMETIC PROCESSING BY REAL TIME PROCESSOR
P24
COMMUNICATION DATA TRANSFER TO QUEUE
P25
PROCESSING DEMAND PRESENT?
NO
YES
P26
P27
VALID TRANSFER DATA TO QUEUE
INVALID TRANSFER DATA TO QUEUE
END

FIG. 12

T08090 "09T9Z260

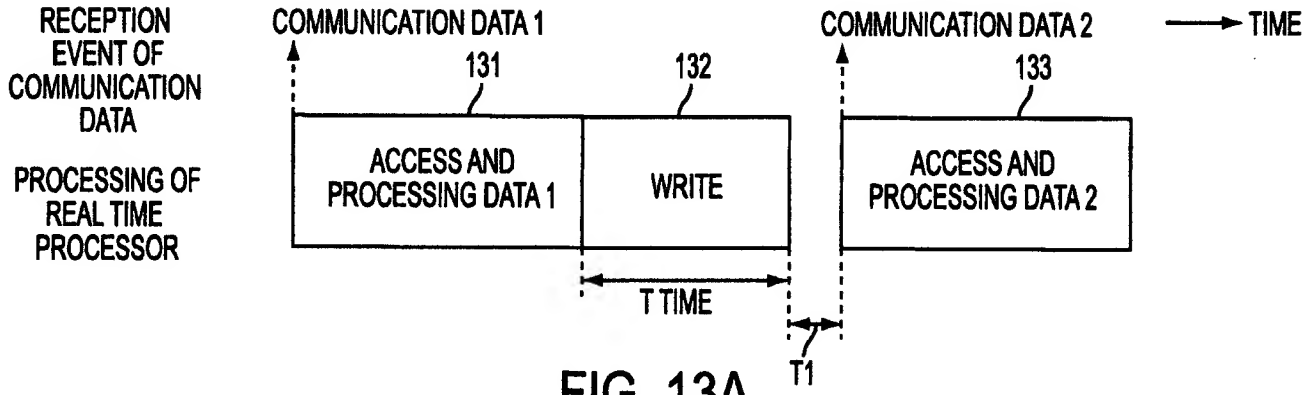


FIG. 13A

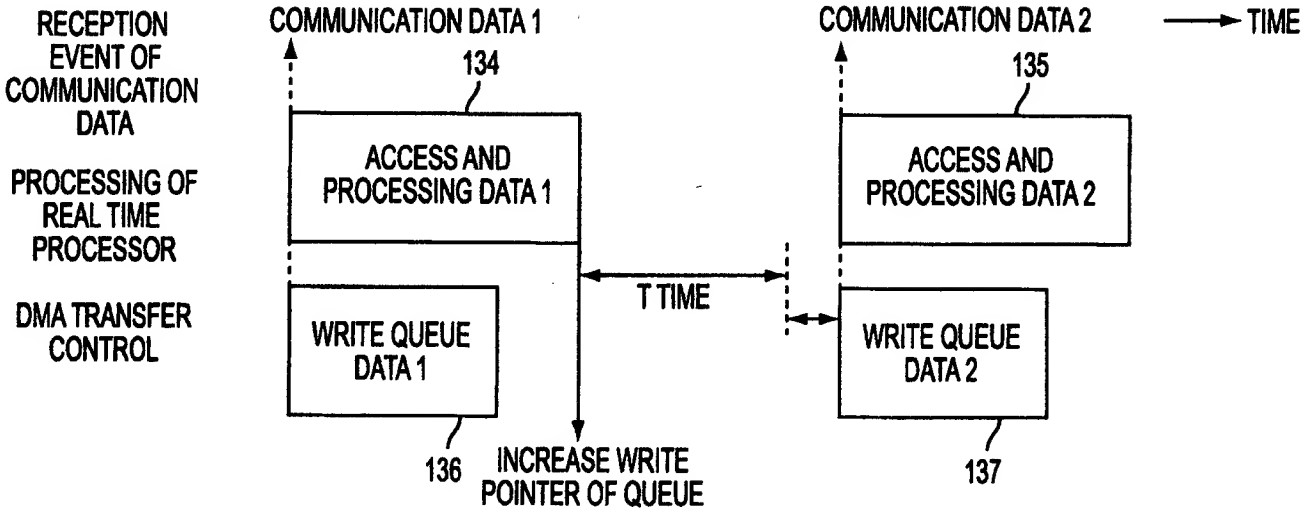


FIG. 13B

F08090 09T52760

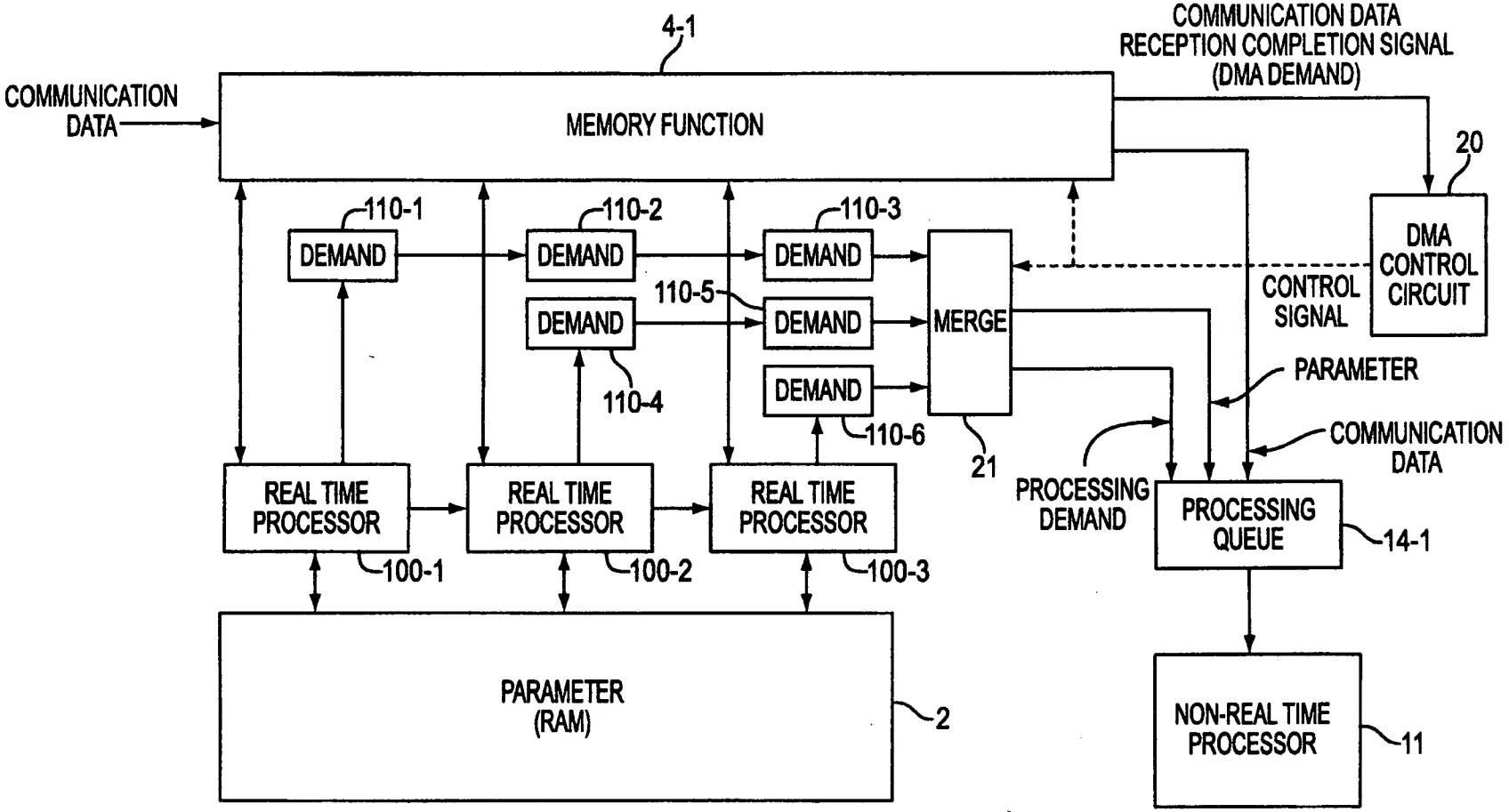


FIG. 14

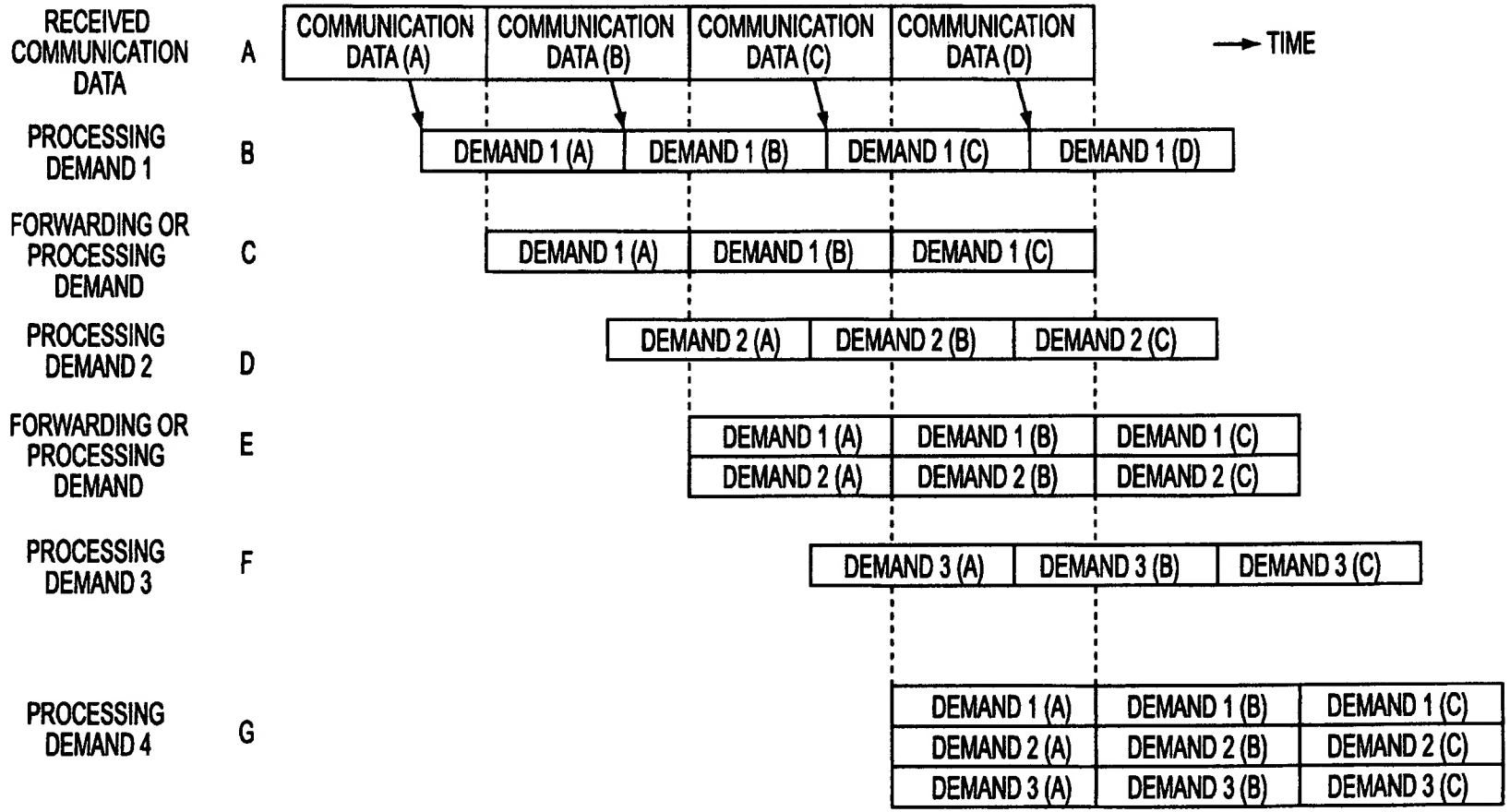

RECEIVED COMMUNICATION DATA
A
COMMUNICATION DATA (A)
COMMUNICATION DATA (B)
COMMUNICATION DATA (C)
COMMUNICATION DATA (D)
TIME
PROCESSING DEMAND 1
B
DEMAND 1 (A)
DEMAND 1 (B)
DEMAND 1 (C)
DEMAND 1 (D)
FORWARDING OR PROCESSING DEMAND
C
DEMAND 1 (A)
DEMAND 1 (B)
DEMAND 1 (C)
PROCESSING DEMAND 2
D
DEMAND 2 (A)
DEMAND 2 (B)
DEMAND 2 (C)
FORWARDING OR PROCESSING DEMAND
E
DEMAND 1 (A)
DEMAND 1 (B)
DEMAND 1 (C)
DEMAND 2 (A)
DEMAND 2 (B)
DEMAND 2 (C)
PROCESSING DEMAND 3
F
DEMAND 3 (A)
DEMAND 3 (B)
DEMAND 3 (C)
PROCESSING DEMAND 4
G
DEMAND 1 (A)
DEMAND 1 (B)
DEMAND 1 (C)
DEMAND 2 (A)
DEMAND 2 (B)
DEMAND 2 (C)
DEMAND 3 (A)
DEMAND 3 (B)
DEMAND 3 (C)

FIG. 15

T08090 "09T92260

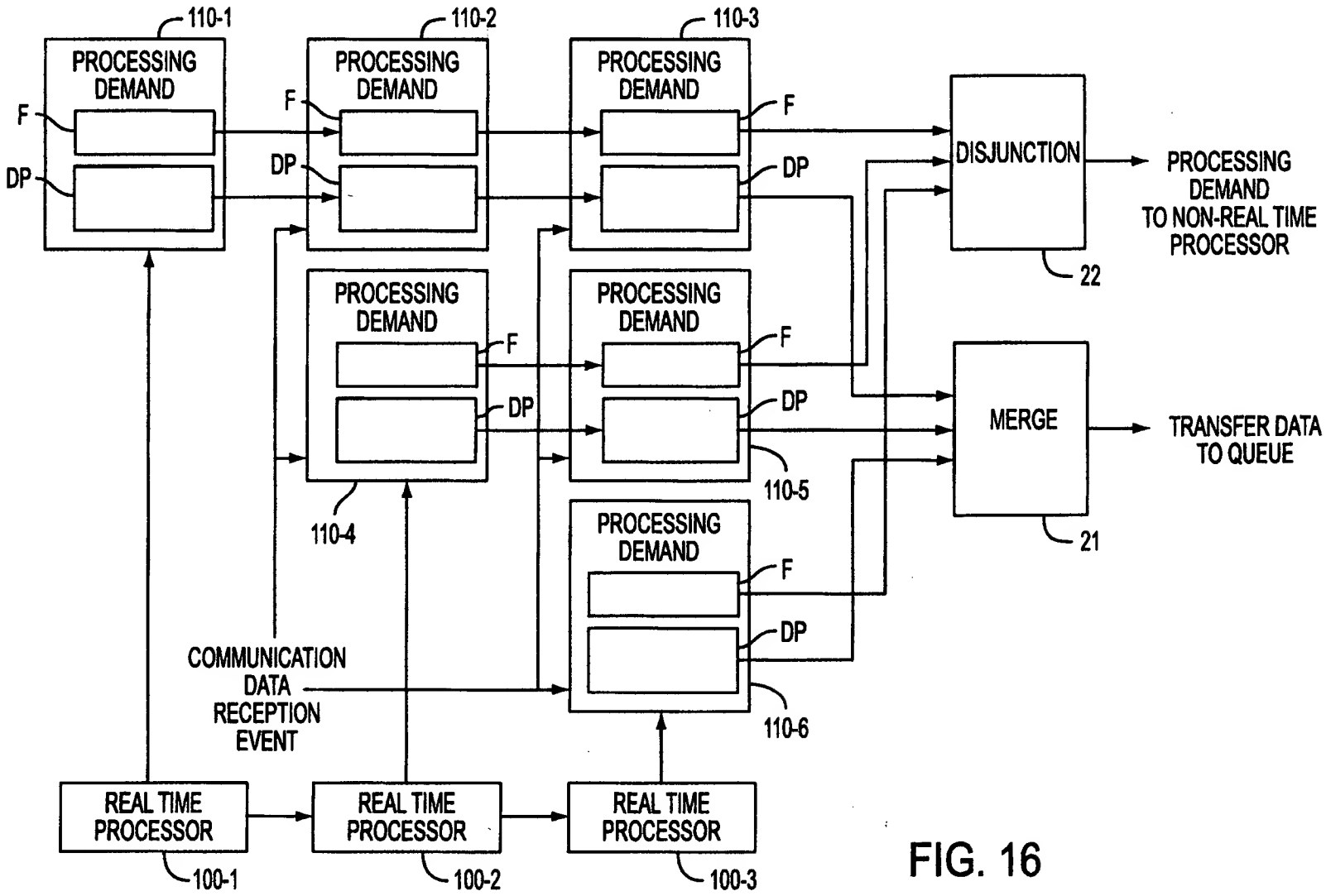


FIG. 16

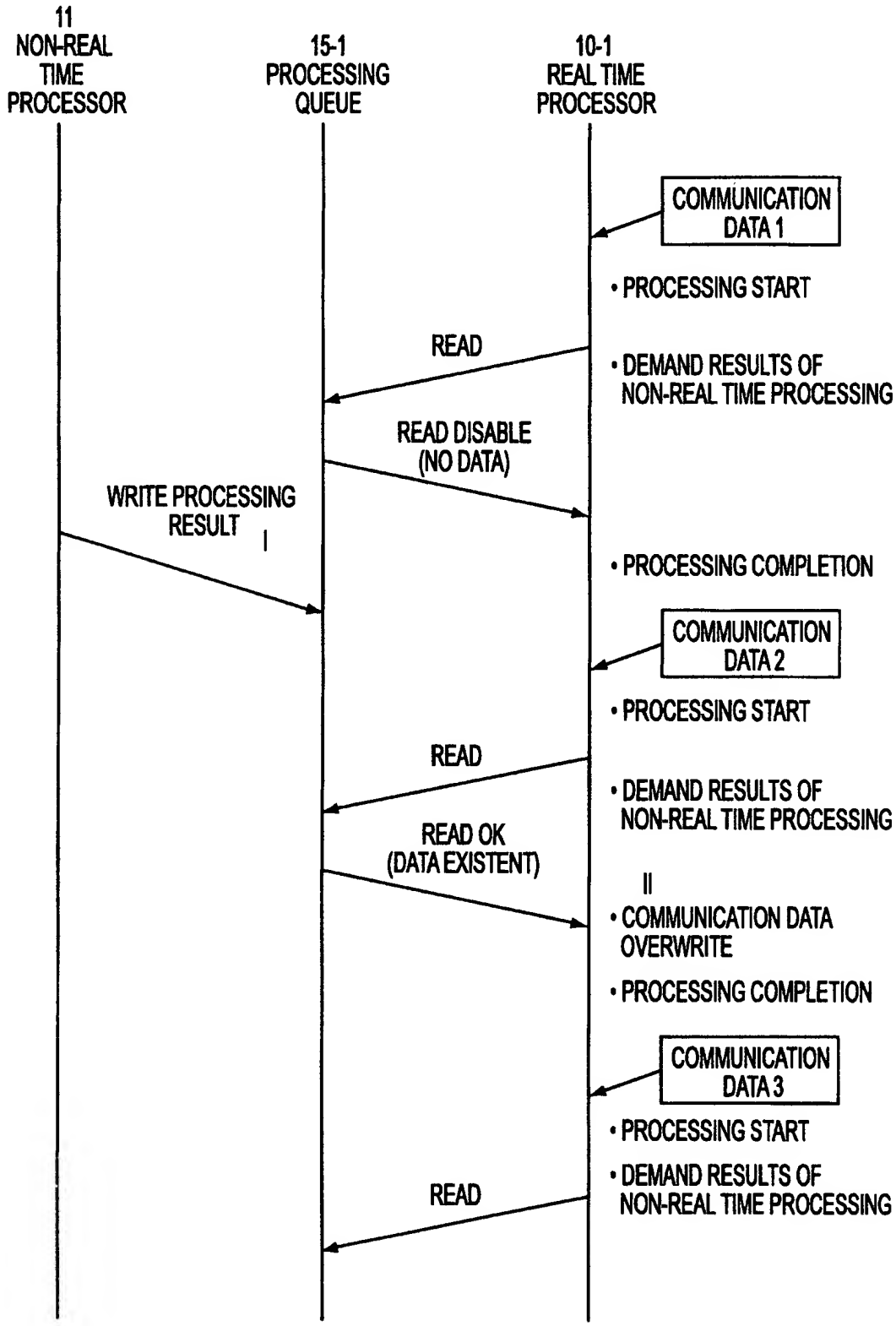

11
NON-REAL TIME PROCESSOR
15-1
PROCESSING QUEUE
10-1
REAL TIME PROCESSOR
COMMUNICATION DATA 1
• PROCESSING START
READ
• DEMAND RESULTS OF NON-REAL TIME PROCESSING
READ DISABLE (NO DATA)
WRITE PROCESSING RESULT
I
• PROCESSING COMPLETION
COMMUNICATION DATA 2
• PROCESSING START
READ
• DEMAND RESULTS OF NON-REAL TIME PROCESSING
READ OK (DATA EXISTENT)
II
• COMMUNICATION DATA OVERWRITE
• PROCESSING COMPLETION
COMMUNICATION DATA 3
• PROCESSING START
READ
• DEMAND RESULTS OF NON-REAL TIME PROCESSING

FIG. 17

T08090 "0STS2260

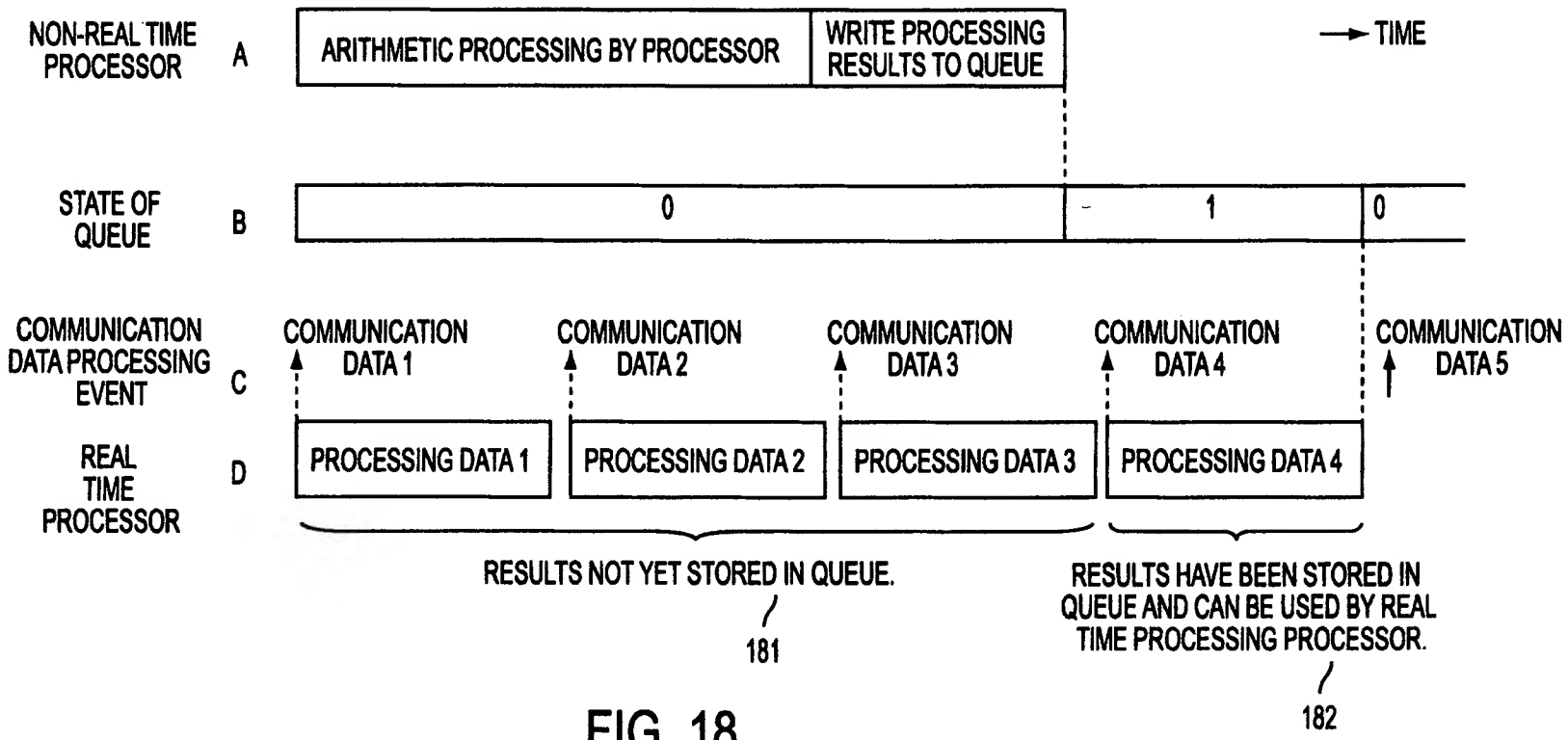


FIG. 18

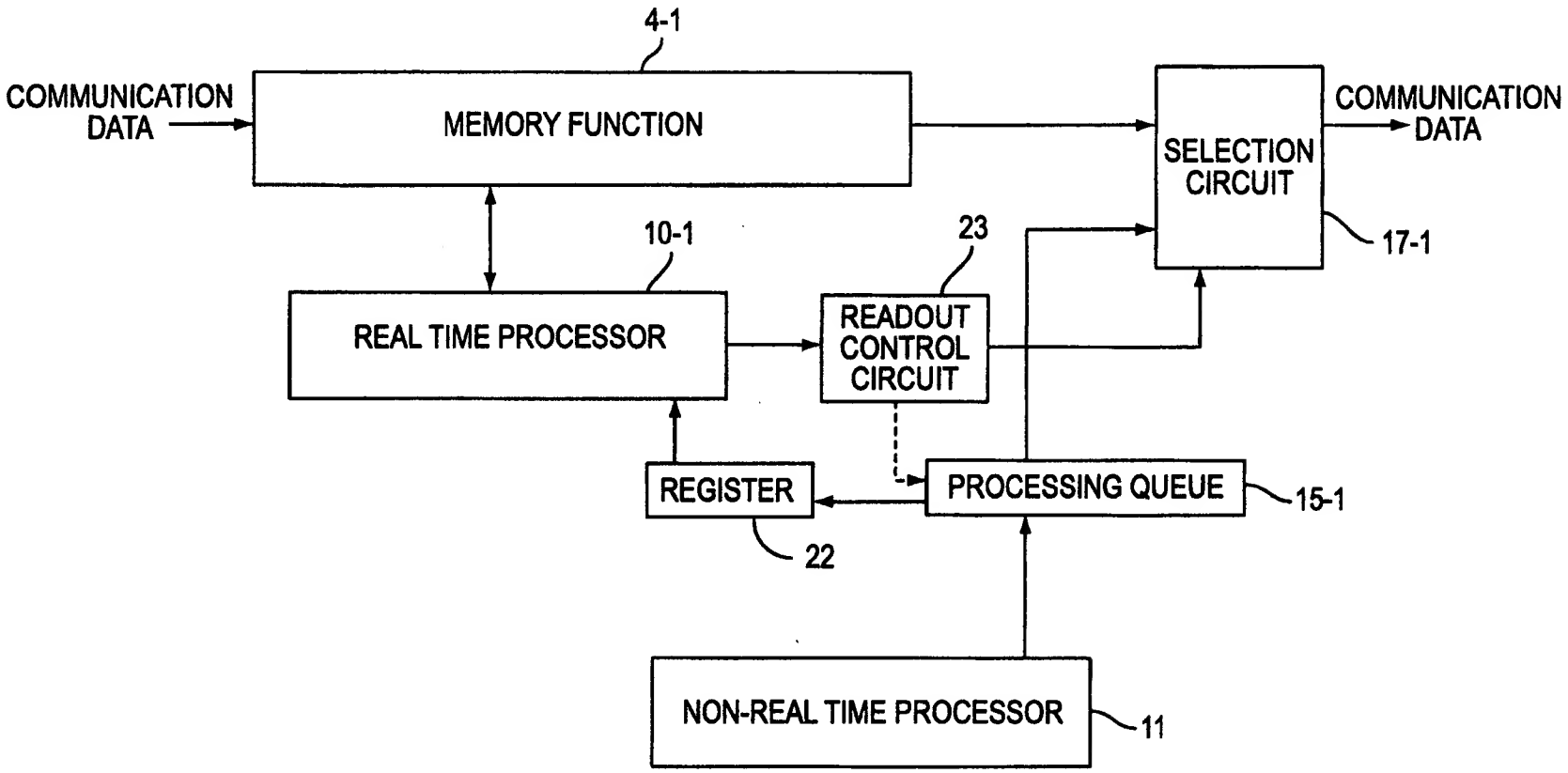

4-1
COMMUNICATION DATA
MEMORY FUNCTION
SELECTION CIRCUIT
COMMUNICATION DATA
17-1
10-1
23
REAL TIME PROCESSOR
READOUT CONTROL CIRCUIT
REGISTER
PROCESSING QUEUE
15-1
22
NON-REAL TIME PROCESSOR
11

FIG. 19